

The Mounted Combat System Company: Not Your Current Full Spectrum Armor Force

**A Monograph
by
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14. ABSTRACT

United States Army armor companies equipped with M1-series tanks are currently conducting stability and support operations following a period of high intensity conflict in Iraq. Simultaneously, the United States Army is pursuing its transformation to the Future Force. The general trend in both Department of Defense and U.S. Army transformation efforts calls for lighter, more deployable units to meet the demands of the future operational environment. This trend is evident in the armor company equivalent of the future-the Mounted Combat System company. MCS companies will have lighter and fewer vehicles as well as fewer personnel than current tank companies. These factors will make the company more readily deployable, while anticipated technological windfalls are to ensure that the MCS company is capable of full spectrum operations. The windfalls purportedly will enable forces like the MCS company to attain a level of situational awareness that allows units to develop situations out of contact and kill enemy targets at extended ranges. The purpose of this monograph is to determine if the Mounted Combat System company will offer an increase in capability commensurate with the challenges of conducting full spectrum operations in the future operational environment. The question is analyzed by reviewing the following topics: doctrinal references on the operational environment and the requirements of full spectrum operations; recent historical experiences of U.S. Army armor forces conducting full spectrum operations in Operation Iraqi Freedom; and, descriptions of the MCS company in the final version of the Operational and Organizational Plan for the Maneuver Unit of Action. The projected capabilities of the MCS company are assessed relative to an M1-series tank company using versatility and robustness as the evaluation criteria. The monograph determines that the MCS company will not be as versatile or robust as an M1-series tank company. Consequently, the Army may be sacrificing full spectrum capability for deployability based on anticipated technological windfalls. Furthermore, the analysis offers a relative perspective on the shortfalls technology will be required to overcome in order to ensure the MCS company is as capable as current armor forces. Based on these findings the author offers recommendations for improving the MCS company using the doctrine, training, leadership, organization, materiel, and soldiers framework. Ultimately, taking the time to field a Future Force with the versatility and robustness to perform to a high standard in all environments seems more prudent than fielding a force that decreases the number of combat soldiers and is reliant to a fault on technology.

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The monograph determines that the MCS company will not be as versatile or robust as an M1-series tank company. Consequently, the Army may be sacrificing full spectrum capability for deployability based on anticipated technological windfalls. Furthermore, the analysis offers a relative perspective on the shortfalls technology will be required to overcome in order to ensure the MCS company is as capable as current armor forces. Based on these findings the author offers recommendations for improving the MCS company using the doctrine, training, leadership, organization, materiel, and soldiers framework. Ultimately, taking the time to field a Future Force with the versatility and robustness to perform to a high standard in all environments seems more prudent than fielding a force that decreases the number of combat soldiers and is reliant to a fault on technology.

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I. INTRODUCTION

United States Army armor companies equipped with M1-series tanks are currently conducting stability and support operations following a period of high intensity conflict in Iraq. Simultaneously, the United States Army is pursuing its transformation to the Future Force.¹ The Mounted Combat System (MCS) Company in the Objective Force Future Combat System (FCS) Combined Arms battalion is the armor company equivalent for the future. This monograph explores the capabilities and limitations of the MCS company as a microcosm for a larger issue and ongoing debate: the risk of sacrificing full spectrum capability for deployability based on anticipated technological windfalls. These windfalls purportedly will enable forces like the MCS company to “develop situations out of contact” and kill enemy targets at extended ranges.² While these assertions may be true, building lighter and smaller formations like the MCS company may not be the best option for operations in complex terrain or operations on the lower end of the spectrum of conflict.

Accordingly, this monograph explores the following research question: Will the Mounted Combat System company offer an increase in capability commensurate with the challenges of conducting full spectrum operations in the future operating environment? This question does not mean to suggest that an MCS company will conduct operations in isolation from other units, but to the extent possible this monograph seeks to look at the capabilities of this

¹ The current Chief of Staff of the Army (CSA), GEN Peter Schoomaker, has introduced the terms Current Force and Future Force to describe organizational changes associated with transformation. The former CSA, GEN Eric Shinseki used the terms Legacy Force, Interim Force, Objective Force to emphasize transformation efforts. Although the terms Legacy, Interim, and Objective Force are no longer used in official correspondence, they have not been completely removed from the Army’s vernacular due to extensive transformation efforts from 1999-2003. As a result, many documents published prior to the GEN Schoomaker’s appointment are still official publications. Accordingly, the term Objective Force will be used throughout this monograph.

² U.S. Department of the Army, *Change 2 to TRADOC Pamphlet 525-3-90 O&O: The United States Army Objective Force Operational and Organizational Plan, Maneuver Unit of Action [Final]* (Ft. Knox, KY: Unit of Action Maneuver Battle Lab, June 2003), 4-1.

particular unit as published in the Operational and Organizational Plan (*O&O*). Answering the research question will lay the foundation for conclusions about and recommendations for the MCS company according to the Doctrine, Training, Leadership, Organization, Materiel, and Soldiers (DTLOMS) framework.

Transformation Background

The United States Department of Defense (DOD) is currently pursuing efforts to transform U.S. armed forces. The underlying premise for DOD transformation is the transition from the industrial age to the information age. The primary tenets of DOD transformation include transforming how we fight; transforming how we do business; and transforming how we work with others.³ For the purpose of this monograph, the main concern is DOD's view of transforming how we fight.

The concept of military forces transforming to new methods of fighting remains as old as war itself. And, "while there is no magic formula for success," the first step when embarking on a path to transformation is to "determine a generally accurate picture of the nature of future war."⁴ The Secretary of Defense, Donald H. Rumsfeld, offers the following description:

Today's war on terror is unlike any our nation has fought before. Instead of opposing armies, we face terrorists who move information at the speed of an e-mail, money at the speed of a wire transfer, and people at the speed of a commercial jetliner. And, as the century unfolds, we may still face different threats—and wars that could be distinctly different. To deal with these new challenges, our forces need to be light, flexible, and agile.⁵

³ U.S. Department of Defense, "DOD Transformation Planning Guidance" (Washington, D.C.: Government Printing Office, April 2003), 3-7.

⁴ Harold R. Winton, "Introduction," *The Challenge of Change: Military Institutions and New Realities, 1918-1941*, ed. Harold R. Winton and David R. Mets (Lincoln, NB: University of Nebraska Press, 2000), xi.

⁵ Donald H. Rumsfeld, "A 21st-Century DoD," *The Wall Street Journal*, available from <https://www.us.army.mil/portal/jhtml/earlyBird/Nov2003/e20031124236070.html>; Internet accessed 24 November 2003.

Thus, the idea of transforming to lighter forces starts at the highest ranks of the DOD based on the nature of war not only now, but also in the future. Additional insight on the nature of future conflict is provided in Chapter II.

U.S. Army transformation predates current DOD transformation. The Army's impetus for transformation was born out of several operational experiences to include: the slow build-up of forces for Operation Desert Storm due to strategic deployability limitations from 1990-91; the challenges of using heavy forces to conduct peacekeeping operations in the restrictive terrain of Bosnia-Herzegovina from 1995-present; and, the inability to deploy and employ a force of AH-64 Apache attack helicopters, Task Force Hawk, in support of Operation Allied Force in 1999. General Eric Shinseki, the newly appointed Chief of Staff in 1999, believed the Army needed to transform based on these operations.

According to General Shinseki, the Army was a dichotomous force composed of: light forces that can get to the fight quickly but lack firepower and sustainability; and, heavy forces that have proved dominant in various operations over the last ten years, but that require extensive time and resources to deploy.⁶ The dichotomy stems from the creative tension between deployability on the one hand and survivability on the other. Tank companies, equipped with M1-series tanks weighing approximately seventy tons, can be considered an icon for this tension.⁷

In response to the deficiency of a dichotomous force, General Shinseki published *The Army Vision* in October 1999. *The Army Vision* calls for developing forces that will succeed in

⁶ Eric K. Shinseki, *Frontline* Interview, available from <http://www.pbs.org/wgbh/pages/frontline/shows/future/interviews/shinseki.html>; Internet accessed 30 January 2004.

⁷ The phrase M1-series tank is used throughout this paper. The U.S. Army currently has multiple variants of the M1 tank in the active inventory. The two primary variants are the M1A1 and the M1A2. Both tanks offer similar armor protection; the M1A2 has enhanced target acquisition, fire control, situational awareness capabilities. Company organizations are identical, regardless of the variant in the unit.

full spectrum operations and that are responsive, agile, versatile, deployable, lethal, survivable, and sustainable. The long-term solution for making *The Army Vision* a reality involves the Army's transformation to the Objective Force.

According to *The Objective Force in 2015* White Paper, the "Objective Force is comprised of modular, scalable, flexible organizations for prompt and sustained land operations."⁸ Conceptual designers developed new organizational names "to shed pre-existing concepts, mission, functions, and structures."⁹ The higher tactical command headquarters in the Objective Force will be the Unit of Employment (UE). UEs will perform functions similar to division and corps headquarters in that they are designed to "integrate and synchronize Army, Joint, and Multinational forces for full spectrum operations at higher tactical and operational levels of war."¹⁰ The UE will employ Units of Action (UA), which are the primary warfighting formations in the Objective Force.

Each Unit of Action is approximately equivalent in size to a maneuver brigade in the current force. A standard UA task organization includes three combined arms battalions, an aviation battalion, a Non-line of Site Battalion, a Forward Support Battalion, and a Brigade Intelligence and Communications Company (see Appendix A). Central to this study, each Combined Arms battalion has two infantry companies and two MCS companies (see Appendix B). MCS companies will be described in greater detail in Chapter 4. However, as this study progresses it may be helpful to keep in mind the observations of a recent student at the U.S. Army War College, LTC John Tully. In a research paper that he published in 2003, LTC Tully states, "Current UA design shows armor-like organizations doing similar missions as today's armor

⁸ U.S. Department of the Army, *The Objective Force in 2015* White Paper (Washington, D.C.: HQ, Department of the Army, December 2002), i.

⁹ Ibid., 5.

¹⁰ *Change 2 to TRADOC Pamphlet 525-3-90 O&O*, 1-5.

soldiers. The platforms will change and the organizations will change but armor-like missions will remain.”¹¹ The armor-like organizations will be MCS companies.

Scope and Limitations

This monograph examines U.S. Army doctrine and offer historical accounts from Operation Iraqi Freedom (OIF) in order to anticipate the operational requirements for an armor-like organization in the future operational environment. The monograph does not argue for the development of a new generation of heavy tanks, as the U.S. Army has clearly rejected this course of action. However, the capabilities of the current M1-series tank company, which are highlighted in the discussion of OIF, serve as the base line for comparison. The reason for this comparative base line is that all characteristics are really relative to current forces. As an example, Objective Force units will be responsive, deployable, and sustainable because the current heavy forces are not responsive *enough*, deployable *enough*, and sustainable *enough*. Thus, when desired characteristics are discussed, an inherent measure of relativity exists.

The scope of this paper precludes discussing operations on all types of terrain. As a result, this study focuses on one of the most challenging and likely scenarios in the operational environment for the Future Force—urban terrain. In a similar vein, this paper does not discuss all the missions across the spectrum of operations, but rather focuses on the capabilities required for armor-like formations to conduct specific missions in each type of major operation. Offensive operations will focus on the movement to contact; defensive operations will focus on area defense; stability operations will focus on peacekeeping; and, support operations will focus on humanitarian assistance. Furthermore, this paper describes the critical role of intelligence as it relates to the employment of MCS companies in these operations. Additional limitations for this

¹¹ John Tully, *U.S. Army Transformation: Implications for the Armor Force* (Carlisle Barracks, PA: U.S. Army War College, April 2003), 20.

study are as follows:

- This monograph does not discuss Units of Employment (UE) any further.
- This monograph only discusses the combined arms battalion as it directly relates to MCS company employment.
- This monograph does not address Stryker Brigade Combat Teams.
- This monograph does not address administrative and logistical support operations or structure.
- This monograph only examines capabilities of pure company size elements; not task organized company teams.
- This monograph does not address specific materiel aspects of platforms, but rather limits the discussion to address generic capabilities and manning considerations for platforms (e.g.—no discussion of Chobham Armor on M1-series tanks, but rather armor plating and protective systems).

Criteria

Several options from which to choose criteria were available. The criteria selected for answering this research question needed to address key characteristics that would enable an MCS company to effectively conduct full spectrum operations in the future operational environment. Also, important to the selection process was finding characteristics and associated terms with an existing, authoritative definition. Additionally, the criteria should not include characteristics that can be directly acquired through technological advances, such as lethality and sustainability. Finally, the number of criteria was limited to two in order to address full-spectrum operations within the scope of this paper. Ultimately, versatility and robustness were selected. Doctrine, professional papers, and historical experience suggest that these characteristics have been, and will continue to be, important for armor-like organizations.

An option for choosing criteria was to select from the collection of seven characteristics for the future force outlined in *The Army Vision*. Using all of these characteristics jeopardizes a critical evaluation of the MCS company. Development in accordance with these terms becomes a self-fulfilling prophecy since the characteristics served as the start point for conceptual design. In fact, Chapter 6 of the final *Operational and Organizational Plan for the Maneuver Unit of Action* describes in great detail the capabilities required in accordance with the seven characteristics. However, one of the seven, versatility was selected because it directly relates to full spectrum

capability. Versatility is described as the ability of organizations “to generate formations that can achieve sustained land dominance at any point and in all environments.”¹² The phrase, “at any point,” in the definition describes the full spectrum capability desired in Objective Force formations, and therefore will be used as one of the criteria.

The second criterion, robustness, was selected not only for the reasons stated above, but also because it describes a concept beyond basic survivability. The term robustness, as it relates to military organizations is defined in the document, *Conceptual Foundations of a Transformed U.S. Army* by Brigadier General (Retired) Huba Wass de Czege and Colonel (Retired) Richard Hart Sinnreich. In a section of the document entitled, “Implications for Army Force Design,” the authors describe robustness as the ability “to cope with unanticipated battlefield demands or the loss or degradation of critical combat enablers.”¹³ They go on to state the following in reference to robustness:

The more uncertain the future commitment environment, therefore, the more essential it will be for the methods, organizations and equipment of future Army forces to “degrade gracefully” through sufficient built-in redundancy to absorb losses without becoming ineffective...In large part, this is a matter of doctrine and training. But it also urges careful attention to organizational and equipment self-sufficiency.¹⁴

The characteristic of robustness, as described above, requires more than just survivability or protection, but rather the ability of an organization to continue mission under the influence of friction.

The criteria versatility and robustness may have inherent overlapping qualities. In order to ensure the criteria are discreet, versatility is further refined as the ability to initiate and execute a mission. As a result, versatility is largely a mental construct describing a general assessment of

¹² *Change 2 to TRADOC Pamphlet 525-3-90 O&O*, 6-3.

¹³ Huba Wass de Czege and Richard Hart Sinnreich, *Conceptual Foundations of Transformed U.S. Army* (Arlington, VA: The Institute of Land Warfare, AUSA, March 2002), 21.

¹⁴ *Ibid.*, 22.

a particular formation's ability to accomplish assigned missions. Robustness is the ability to accomplish the mission with degradation. These criteria will serve as a unifying theme throughout the monograph.

Organization

The subsequent chapters of this study build a case for conclusions and recommendations associated with the capabilities of the MCS company. Chapter II focuses on defining the current and future operational environment as well as describing generic mission profiles for armor formations conducting offensive, defensive, stability, and support operations. Chapter III provides recent historical perspective on required capabilities for armor formations based on U.S. experiences in Operation Iraqi Freedom (OIF). This historical perspective reinforces doctrinal assertions on the complexity of the environment as well as the demands of full spectrum operations for armor formations. Chapter IV describes the MCS company and offers analysis of an MCS company's ability to conduct the types of operations described in doctrine, and experienced in OIF, using the criteria of versatility and robustness. Finally, Chapter V offers conclusions and recommendations using the DTLOMS framework based on the analysis in Chapter 4.

II. REVIEW OF OPERATIONAL CONCEPTS AND DEFINITIONS

The Operational Environment

Harold Winton, former seminar leader and Deputy Director of The School of Advanced Military Studies (SAMS), emphasized the need to determine the nature of future war when embarking upon changes in military forces. The nature of future war involves not only the operational environment, but also the types of operations U.S. forces will conduct in that environment. The operational environment involves a number of complex, interrelated entities to include terrain, adversaries, and other complicating factors. Numerous documents describe the operational environment and they all generally agree on key principles. The documents include strategic, operational, and tactical factors that affect the operational environment. This monograph briefly discusses higher- level considerations, but it focuses on tactical considerations for employment of an MCS company. Additionally, this monograph addresses doctrinal descriptions of the current operational environment as well as descriptions of the future operational environment, in order to provide an understanding of anticipated changes. Finally, the description of the operational environment supports the focus on operations in urban terrain, which has been selected for this study.

The Army *Operations* manual, Field Manual 3-0 describes the contemporary operational environment in the first chapter. According to FM 3-0, there are six dimensions of the operational environment: political, unified action, threat, land combat operations, information, and technology. The dimensions can generally be categorized for the purpose of examining the MCS company. The political and unified action dimensions are part of the larger environment in which Objective Force formations will operate. Threat and land combat operations will make an obvious and direct impact on operations down to the lowest unit level. Finally, information and technology are dimensions that the Army anticipates employing to counter the challenges of threat and land combat operations. A description of each dimension provides a more

comprehensive understanding of how U.S. doctrine describes the operational environment.

The political dimension of the operational environment, as described in FM 3-0, emphasizes that the military serves as an instrument of national power that is employed in accordance with security policy to “preserve, protect, and advance U.S. interests.”¹⁵ Unified action acknowledges that Army forces will operate with joint, interagency, and multinational (JIM) partners. Army forces will face significant and varied challenges under these broad, strategic dimensions.

In terms of threat, FM 3-0 emphasizes the fact that wars between nation-states are one of many threats the U.S. must be prepared to counter. The increasing influence of non-state actors and transnational organizations also present significant threats to U.S. interests. FM 3-0 describes the several concepts that adversaries will employ to counter U.S. military strength: cause high casualty rates through force-oriented operations; avoid decisive engagements and use terrorist tactics to decrease public support, place stress on alliances, and generally diminish U.S. resolve; use well planned and executed ambushes, possibly involving weapons of mass destruction, to destroy key systems and cause unacceptable casualties; form alliances to deter U.S. interests; and, procure systems with advanced technology to gain local superiority over U.S. systems, when possible.¹⁶ The last concept for an adversary operating against U.S. forces speaks directly to challenges for tactical formations like the MCS company:

Use terrain and urban areas to disperse mechanized and armored units. Concentrate and disperse them as opportunities allow. Maneuver forces during periods of reduced exposure to U.S. technology. Use upgraded camouflage and deception capabilities.¹⁷

Thus, current U.S. doctrine rightfully recognizes and anticipates the need to conduct military

¹⁵ U.S. Department of the Army, *Operations*, Field Manual 3-0 (Washington, D.C.: HQ, Department of the Army, June 2001), 1-9.

¹⁶ Ibid.

¹⁷ Ibid.

operations in urban terrain (MOUT), where enemy forces will seek to negate technological advantages. This concept is a common theme in descriptions of the operational environment.

Land combat operations are described as a distinct feature of conflict based on four characteristics: scope, duration, terrain, and permanence. Scope relates to destroying or defeating enemy forces by employing the elements of combat power in close, continuous contact throughout the depth of battlespace in contiguous and noncontiguous areas of operations; noncombatants in the area of operations is a factor in the scope of land combat operations.¹⁸ Duration describes the repetitive and continuous nature of land combat that is required to achieve decisive results. Terrain, influenced by weather and climate, plays a significant role in the conduct of land combat. Finally, permanence conveys the idea that until land forces control a particular piece of ground, the effects of operations other than land combat are only temporary. Each of the characteristics requires robust formations to accomplish an assigned mission.

Information is one of the dimensions the Army anticipates leveraging to overcome the challenges presented by the threat and the nature of land combat operations. The information environment is defined as “the aggregate of individuals, organizations, and systems that collect, process, store, display, and disseminate information; also included is information itself.”¹⁹ In this dimension, the Army wants to gain and maintain information superiority, which “means commanders receive timely, accurate information that enables them to make better decisions and act faster than their adversaries.”²⁰ Leveraging technology is critical to gaining information superiority.

The technology dimension of the operational environment describes advantages for the

¹⁸ According to page 4-3 in FM 3-0, the Army defines the elements of combat power according to the following formula, combat power = maneuver + firepower + protection + leadership + information.

¹⁹ *Operations*, FM 3-0, 1-11.

²⁰ *Ibid.*, 1-12.

Army as well as advantages for adversaries. For the Army, technology contributes to the collection and dissemination of information, which improves battle command, improves endurance and protection for soldiers, increases lethality, allows for discriminate use of force in stability operations, and improves mobility. While recognizing the advantages technology offers to friendly forces, Army doctrine acknowledges that adversaries can readily acquire advanced systems and employ them in sophisticated and unexpected ways to damage Army systems and inflict casualties.²¹

The last paragraph in FM 3-0 dedicated to describing the technology dimension of the operational environment provides a key concept for this study. The paragraph states that advanced technology does provide positive effects. However, technology does not guarantee success in military operations; skilled soldiers and effective leaders decide the outcome in military operations.²² Despite these statements in current Army doctrine, at least one formation in the Objective Force will have fewer soldiers because it will have more technology. To make matters worse, projections on the nature of the future operational environment seem to indicate that conducting operations will only become more challenging for Army forces.

No specific date will mark the transition from the contemporary operational environment to the future operational environment. However, because Objective Force units will be fielded as early as 2008 and the transition to the Objective Force is scheduled for completion by 2025, this study would be remiss if it did not look beyond the operational environment as described in current doctrine. Several sources offer descriptions of the environment in which Objective Force formations will be employed. Although these sources do not reference the dimensions described in FM 3-0, the terms are still relevant and will be used for clarity.

²¹ Ibid., 1-12 to 1-13.

²² Ibid., 1-13.

In The Land Warfare Paper, *Conceptual Foundations of a Transformed U.S. Army*, the authors make incisive observations on the threat dimension of the future. The first observation relates to terrain and its impact:

Continuing global urbanization increases the probability that U.S. forces will confront complex topography even where nature itself does not impose it. That, and the probable intermingling of hostile forces with noncombatants, whether inadvertent or deliberate, will make both movement and targeting more difficult, and may significantly diminish the effectiveness of both air and surface-to-surface standoff fires.²³

The stated shift toward global urbanization provides additional support for examining capabilities for future forces in that terrain set.

Another observation describes how future adversaries will try to exploit the advantages of complex terrain. A future adversary “will seek to reduce his exposure to standoff attack by avoiding massed formations, dispersing, concealing and hardening critical assets, and operating wherever possible in and from complex terrain, to include exploiting the physical and moral sanctuary furnished by heavily populated areas and urban terrain.”²⁴ The accuracy of these forecasts is undeniable, as U.S. forces have already seen these tactics employed in operations to include Operation Allied Force in Kosovo and Operation Iraqi Freedom. Worthy of note, these forecasts also appear in official Army publications.

The U.S. Army’s Training and Doctrine Command (TRADOC) serves as the Army’s primary proponent for force development. TRADOC recently published TRADOC Pamphlet 525-2-60 entitled *The Operational Environment and Threat: A View of the World to 2020 and Beyond*. The purpose of examining the operational environment was to provide “context to drive

²³ Wass de Czege and Sinnreich, *Conceptual Foundations of a Transformed U.S. Army*, 4.

²⁴ *Ibid.*, 5.

and shape concepts and requirements for the Army's Objective Force."²⁵ This document describes a sobering view of the future operational environment that is consistent with current doctrine as well as the concepts presented in the *Conceptual Foundations* paper. With regard to issues that directly relate to the employment of tactical formations, *The Operational Environment and Threat* document asserts the following: "High likelihood of close combat in urban environments and/or complex terrain...Humanitarian issues present across the full spectrum of conflict...[and] Advanced technology present or available."²⁶ Logically, these concepts are included in Chapter 2 of the *Maneuver Unit of Action O&O*, which describes the Operational Environment.

Also included in Chapter 2 of the *Maneuver O&O* is a section entitled "Implications for the Unit of Action." In this section, the document recognizes the challenges of force protection at UA level because of complex terrain. Additionally, adversaries will use "hugging"—staying close to friendly forces to mitigate the effects of fires—in order to frustrate targeting for UA formations. Thus, forecasts for the operational environment consistently emphasize the use of urban, complex terrain to negate potential U.S. technological advantages.

If descriptions on the nature of the operational environment are correct, one may readily conclude that the future challenges will be just as daunting, if not more so, than those the Army has faced in recent operations. The real concerns for the future are how adept an adversary may become in employing the tactics described above and whether or not the Army's future forces can succeed against an increased level of sophistication in urban terrain. With that idea in mind, this study now looks at the missions the future Army will need to accomplish in the operational

²⁵ U.S. Department of the Army, *TRADOC Pamphlet 525-2-60 O&O: The Operational Environment and Threat: A View of the World to 2020 and Beyond* (Ft. Monroe, VA: Training and Doctrine Command, n.d.), 1.

²⁶ *Ibid.*, 3.

environment.

Full Spectrum Operations

Military operations are typically divided into phases. Phasing an operation or campaign allows a commander to chronologically arrange the vast number of diverse and complex tasks to be accomplished. United States Joint doctrine for planning describes four broad phases that generally occur in all campaigns: deter/engage; seize initiative; decisive operations; and, transition.²⁷ Army doctrine complements this model with the concept of full spectrum operations, which serves as a framework for the variety of operations that may be required during the phases of a given campaign. Armor forces, or the potential for introducing armor forces in an operation, play a key role in each of these phases on the spectrum of operations. Unfortunately, the phrase “full spectrum operations” in Army vernacular has almost become trite.

Doctrinal manuals clearly describe the meaning of full spectrum operations and all that they entail. And yet, the willingness to claim that a unit or organization will be capable of conducting full spectrum operations seems flippant at times. Accordingly, this study highlights a portion of the demands of conducting full spectrum operations to gain a better appreciation for the greater whole. Since units like the MCS Company in the UA will serve as the building blocks for the conduct of Army operations, operational level manuals will provide the basis of the description.

According to FM 3-0, “Full spectrum operations are the range of operations Army forces conduct in war and military operations other than war.”²⁸ The Army further categorizes these operations into four types: offensive, defensive, stability, and support. Each type of operation

²⁷ The Joint Staff, *Joint Doctrine for Campaign Planning*, Joint Publication 5-00.1 (Washington, D.C.: The Joint Staff, January 2002), II-16.

²⁸ *Operations*, FM 3-0, 1-4.

will now be explained in greater depth.

Offensive Operations

Offensive operations are the means by which friendly forces impose their will on enemy forces. As a result, U.S. doctrine describes the offense as “the decisive form of war.”²⁹ The purpose of offensive operations is to defeat the enemy by gaining, maintaining, and exploiting the initiative. The Army recognizes four types of offensive operations to achieve these tasks: movement to contact, attack, exploitation, and pursuit. This monograph focuses on conducting a movement to contact because of its unique challenges, and, because it often precedes another type of operation.

While every type of operation has inherent challenges, the movement to contact is difficult because, by definition, the unit conducting a movement to contact has little or no fidelity on the enemy situation. Conversely, in order to conduct an attack, a unit must have some knowledge of the enemy situation. Furthermore, if a unit is conducting an exploitation, it not only knows the enemy situation, but the operation is designed to take advantage of success against the enemy. Going one step further, a pursuit only occurs after the enemy has been defeated and is retreating. Thus, the movement to contact can be considered one of the most challenging operations because the enemy situation is unknown and, as a result, definitive prior planning is limited at best.

The purpose of the movement to contact is to develop the situation and establish or regain contact. “A successful movement to contact requires units with sufficient mobility, agility, and combat power to gain enemy contact and rapidly develop the situation.”³⁰ Once a unit gains

²⁹ Ibid., 7-2.

³⁰ Ibid., 7-17.

contact with enemy forces, there are five options: attack, defend, bypass, delay or withdraw.³¹ The lack of information on the enemy situation makes security for the main body paramount to success. Security prevents the main body from being surprised and provides maximum security for the commander. In company level formations, the beginning of any offensive operation can reasonably be considered a movement to contact because rarely, if ever, is every enemy position known or templated.

Defensive Operations

Defensive operations by themselves generally do not achieve decisive results. Rather, defensive operations “defeat an enemy attack, buy time, economize forces, or develop conditions favorable for offensive operations.”³² Characteristics of successful defensive operations include preparation, security, disruption, massing effects, and flexibility.³³ Mobile defense, area defense and retrograde are the three types of defensive operations. Of these, this monograph focuses on the area defense because it is the most frequently conducted type of operation.

An area defense focuses on retaining terrain by using positions that allow overlapping fires to destroy attacking forces.³⁴ Although area defenses are planned at all tactical echelons, they are the most frequently conducted type of operation because defending an area is an inherent part of any operation. Whether a formation is an assembly area preparing to conduct operations, or it has just seized an objective, it conducts an area defense to retain the terrain it currently occupies and to repel enemy attacks. The ability to transition from an attack to the defense of an objective requires versatility. The ability to successfully conduct an area defense also requires robust forces with the ability to provide continuous local security.

³¹ Ibid., 7-16.

³² Ibid., 8-1.

³³ Ibid., 8-2.

³⁴ Ibid., 8-3.

Offensive and defensive operations primarily involve combat. As Frederick Kagan aptly notes, “*Combat* is characterized by breaking things and killing people; *war* is about much more than that.”³⁵ Kagan, of course, is alluding to the ability to win the peace in conjunction with or at the conclusion of major combat operations. In U.S. Army doctrine, stability and support operations are the means by which Army forces win the peace.

Stability Operations

According to FM 3-0, “Stability operations promote and protect U.S. national interests by influencing the threat, political, and information dimensions of the operational environment.”³⁶ Military tasks conducted during stability operations are “diverse, continuous, and often long-term.”³⁷ FM 3-0 describes the types of stability operations: peace operations, foreign internal defense, security assistance, humanitarian and civic assistance, support to insurgencies, support to counter drug operations, combating terrorism, noncombatant evacuation operations, arms control, and show of force.³⁸ Of these, armor formations have routinely conducted peace operations since the deployment of First Armored Division to Bosnia in 1996. In the absence of the development of a national level peacekeeping force, this monograph assumes that conventional forces, to include armor formations, will continue to conduct peace operations in support of national interests. As a result, in the category of stability operations this monograph focuses on the military activities associated with peace operations.

Current doctrine on Army peace operations is available in the manual entitled *Stability and Support Operations* (DRAG), FM 3-07, dated 1 February 2002. FM 3-07, describes the

³⁵ Frederick W. Kagan, “War and Aftermath,” *Policy Review*, No. 120, available from http://www.policyreview.org/aug03/kagan_print.html; Internet accessed 26 September 2003, 6.

³⁶ *Operations*, FM 3-0, 9-1.

³⁷ *Ibid.*

³⁸ *Ibid.*

types of peace operations: peacekeeping and peace enforcement.³⁹ “[Peacekeeping Operations] PKO are military operations undertaken with the consent of all major parties to a dispute, designed to monitor and facilitate implementation of an agreement (cease fire, truce, or other such agreement) and support diplomatic efforts to reach a long term political settlement.”⁴⁰ Tasks typically associated with PKO include: observing, investigating, and reporting agreement violations; ensuring military equipment for former warring parties is accounted for and disposed of in accordance with governing agreements; supervising separation of forces; and assisting civil police with establishing and maintaining public order.⁴¹ Each of these subordinate operations involve numerous tasks like establishing observation posts and establishing checkpoints, which may be delegated to an armor formation for execution. These tasks are manpower intensive, particularly when they are conducted for extended periods of time in a large area of operations.

Peace Enforcement Operations (PEO) are normally conducted without the consent of all parties and therefore are more intense on the spectrum of conflict. PEO include subordinate operations such as separating and disarming belligerents, establishing and supervising protected areas, as well as restoring and maintaining civil order.⁴² Manpower requirements for PEO generally exceed those of PKO due to increased force protection requirements.

The discussion of stability operations focuses on peace operations, because armor formations have increasingly been involved in these operations in recent history. This brief discussion is meant to highlight the fact that the transition to and conduct of stability operations requires versatile forces. Furthermore, peace operations, particularly PEO, are manpower intensive and require robust formations in order to successfully conduct assigned missions.

³⁹ U.S. Department of the Army, *Stability and Support Operations* (DRAG), Field Manual 3-07 (Washington, D.C.: HQ, Department of the Army, February 2002), 4-2.

⁴⁰ Ibid., 4-3.

⁴¹ Ibid., 4-3 to 4-5.

⁴² Ibid., 4-7 to 4-10.

Support Operations

Support operations comprise the fourth major category of operations according to Army doctrine. “The purpose of support operations is to meet the immediate needs of designated groups for a limited time, until civil authorities can do so without Army assistance.”⁴³ Army doctrine describes both types and forms of support operations. “The two types of support operations are domestic support operations (DSO) and foreign humanitarian assistance (FHA).”⁴⁴ Forms of support operations include: relief operations; support to chemical, biological, nuclear, and high-yield explosive consequence management, support to civil law enforcement, and community assistance.⁴⁵ Each form may be conducted in a domestic or foreign environment.

U.S. maneuver formations, to include armor units, typically conduct foreign humanitarian assistance operations concurrent with or subsequent to a conflict. These operations normally involve providing humanitarian relief to improve the well being of the general population in an area of responsibility. Although these operations are typically conducted in a low threat environment, security of U.S. personnel, equipment, and relief supplies may necessitate surprisingly large manpower requirements to accomplish the mission. Furthermore, units configured to conduct combat operations must be versatile enough to rapidly transition to a significantly different mission profile.

Conclusion

Doctrinal resources and theoretical papers clearly articulate the complexity of the operational environment as well as the demands placed on units required to conduct full spectrum operations. Armor formations in the future most likely will not be tasked to perform every type

⁴³ *Operations*, FM 3-0, 10-0.

⁴⁴ *Ibid.*, 10-1.

⁴⁵ *Ibid.*, 10-4.

of operation described in U.S. Army doctrine. Accordingly, and in order to narrow the scope of this paper, the types of operations explained in greater detail above serve as representative examples of full spectrum operations that armor formations have typically been required to conduct. Each type of operation clearly requires versatile and robust forces, particularly when one considers security requirements in any operation.

Operation Iraqi Freedom (OIF) offers a recent historical experience that demonstrates the complexity of the operational environment as well as the demands placed on armor formations conducting full spectrum operations. In the course of OIF, armor formations conducted movements to contact, area defenses, peace operations, and humanitarian relief operations. Chapter III examines these operations more closely.

III. HISTORICAL VIGNETTE: Operation Iraqi Freedom

Overview

Operation Iraqi Freedom (OIF) required U.S. and Coalition forces to invade a hostile country in order to bring about a regime change. OIF began on 19 March 2003 with air attacks against a suspected gathering of Iraq's national leaders and a number of other strategic and operationally significant targets. The next morning Coalition ground forces attacked into Iraq. Primary elements in the conventional ground force that attacked from Kuwait in the southeast to the northwest towards Baghdad included British Forces, the 1st Marine Expeditionary Force, and the U.S. V Corps. The 3rd Infantry Division (3ID) and 101st Airborne/Air Assault Division were the primary ground elements in V (US) Corps. Additionally, special operations forces deployed in western Iraq and focused on conducting counter-tactical ballistic missile operations. In the north, Coalition forces formed a second front when a reinforced U.S. airborne brigade seized an airfield in Northern Iraq on 26 March. The combined pressure these forces applied on the Iraqi regime lead to its capitulation on 9 April.⁴⁶

Subsequent to the end of major combat operations, Coalition forces continue to conduct a variety of stability and support operations (SASO). The 3 ID redeployed to the U.S., and the U.S. Army's 4th Infantry Division (4 ID) and 1st Armored Division (1 AD) moved into Iraq to conduct post-major conflict operations. Observations and lessons learned from armor forces in each of these units illustrate how tank companies, or elements of tank companies, contributed to mission accomplishment across the spectrum of conflict. Furthermore, the experiences of these units illustrate how many aspects of the operational environment described in Chapter II were

⁴⁶ Association of the U.S. Army, "Operation Iraqi Freedom: A Chronology," *Army*, May 2003, 47-52.

encountered, and continue to be so, in OIF.

Armor Forces in OIF

The building block of U.S. Army armor forces in Iraq consisted of M1-series tank companies. The Modified Table of Organization and Equipment (MTOE) for a tank company includes fourteen M1A1 or M1A2 tanks, each manned by four personnel, for a total of fifty-six combat crewmen, which are the basis of the unit's organic capability. The company is further broken down into three platoons of four tanks each, and a headquarters section with two tanks. Each platoon can be broken down into two sections of two tanks each. The MTOE also authorizes three trucks and eight personnel to assist with administrative and support functions for the company. A graphic depiction of an M1-series tank company can be found in Appendix C. Subsequent references to a tank company or its subordinate elements refer to the combat vehicles and crewmen. Generally speaking, tank companies did not operate as pure formations, but rather were task organized with mechanized infantry forces equipped with M2-series Bradley Fighting Vehicles. However, observations on the capabilities provided by tank sections, platoons, and companies reinforce the versatility and robustness of these formations.

Two of the defining moments in OIF occurred when 3 ID conducted offensive operations into Baghdad on 5 and 7 April. These operations involved some of the most intense ground combat experienced by Coalition forces in OIF. The operation on 5 April was conducted by Task Forces 1-64 Armor, 2nd Brigade Combat Team (2 BCT), 3 ID and has subsequently been named

Thunder Run One.⁴⁷ Observations from this operation illustrate the capabilities of tank companies in a movement to contact. The operation on 7 April was conducted by three task forces in 2 BCT and has subsequently been named Thunder Run Two. Discussion of Thunder Run Two will focus on the contribution of the tanks in Task Force 3-15 Infantry. Observations from Thunder Run Two illustrate the capabilities of tank-equipped units in a defensive role.

In Thunder Run One, TF 1-64 Armor was told to attack north into Baghdad, gather as much information as possible for the 2nd Brigade, and “end up” at the Baghdad International Airport.⁴⁸ The entire movement was about sixteen kilometers. In terms of the enemy, Major (MAJ) Donovan, the task force operations officer, stated that the unit had “no enemy picture” following the operations order brief from brigade.⁴⁹ One of the tank company commanders expounded on this fact by stating:

The biggest concerns we had coming into this were the unknowns. We didn’t know where the enemy was defended along the road at all or whether he was going to defend every inch of it or what.⁵⁰

Another company commander commented that the lack of intelligence pertained not just to enemy dismounted soldiers, but also to the location of Iraq’s vaunted Special Republican Guard

⁴⁷ Thunder Run One has been called an attack and even more specifically a raid into Baghdad. According to U.S. doctrine, both require some intelligence on the enemy on the enemy situation, and the raid requires detailed intelligence. Based on the accounts of members of the units who executed the operation, they had no intelligence. Accordingly, Thunder Run One is classified as a movement to contact followed by a hasty attack and withdrawal to conform to doctrine in this monograph. Furthermore, based on previous fights enroute to Baghdad, the 2 BCT commander, Colonel Perkins, stated in an interview that, “After RAMS, I just figured it [fighting in Baghdad] was going to be a movement to contact and that’s what it was.” Colonel Perkins, interview by Major Kilner, 18 May 2003, Summary of Transcription of briefing with Officers of 2 BCT 3ID, interview 12-10B, transcript, Combined Arms Research Library, Fort Leavenworth, KS.

⁴⁸ Major Donovan, interview by Lieutenant Colonel Manning, 19 May 2003, Summary Transcription of Interviews with BN CDR, BN Staff and Co Cdrs of 1-64 AR, interview 11-11B, transcript, Combined Arms Research Library, Fort Leavenworth, KS.

⁴⁹ Ibid.

⁵⁰ Captain Hilmes, interview by Lieutenant Colonel Manning, 19 May 2003, Summary Transcription of Interviews with BN CDR, BN Staff and Co Cdrs of 1-64 AR, interview 11-11B, transcript, Combined Arms Research Library, Fort Leavenworth, KS.

armor and mechanized formations.

Based on the lack of information, and realizing that they would be running a gauntlet on a highway through a built-up area, TF 1-64 based the task organization for the mission on survivability. TF 1-64 only brought armored, tracked vehicles on the mission to include 29 M1A1 tanks and 14 Bradley Fighting Vehicles (BFVs). In the course of execution, the column was most vulnerable when it was forced to stop. Shortly into the mission, the column stopped because of a disabled tank and quickly found itself in a “hornet’s nest of activity.” MAJ Donovan recounts, “They [enemy forces] were just hurdling buses, technical trucks, you name it came flying up and dropping these guys off 100 meters from your vehicle.”⁵¹ In such instances, every crewmen on a given tank was occupied either firing or reloading one of the four weapon systems: the 120 millimeter main gun, the 7.62 millimeter coaxial machine gun, the tank commander’s .50 caliber machine gun, or the loader’s 7.62 millimeter machine gun.

The enemy was not only fanatical, but also devious. According the commander of TF 1-64, Lieutenant Colonel (LTC) Swartz:

We had fought an enemy up to this point that knew every dirty trick in the book and used it. They fired at us from Mosques, hospitals, [and] out of the back of Red Crescent vehicles; they used human shields, civilian vehicles, [and] fake surrenders.⁵²

In addition to these tactics, LTC Swartz recalled how the Iraqi fighters wrapped rifle propelled grenades (RPG) warheads in kids’ clothes and left them in the road to immobilize a vehicle by blowing the track off. According to LTC Swartz, tanks hit these improvised devices, but the

⁵¹ Major Donovan, interview by Lieutenant Colonel Manning, 19 May 2003, Summary Transcription of Interviews with BN CDR, BN Staff and Co Cdrs of 1-64 AR, interview 11-11B, transcript, Combined Arms Research Library, Fort Leavenworth, KS.

⁵² Lieutenant Colonel Swartz, interview by Lieutenant Colonel Manning, 19 May 2003, Summary Transcription of Interviews with BN CDR, BN Staff and Co Cdrs of 1-64 AR, interview 11-11B, transcript, Combined Arms Research Library, Fort Leavenworth, KS.

enemy “underestimated the capability of the M1 [tank] as we just continued to move.”⁵³

In another instance of an M1 tank making a difference in the battle, LTC Swartz described how the column was in danger of being halted on the road again. The enemy left a concrete barrier across the road. As LTC Swartz quickly ran through possible options to overcome the obstacle, one of his junior leaders solved the problem by ramming his mine plow-equipped tank into the barrier and reduced it to pieces that could be removed from the road with minimal effort. Thus, in at least two specific instances, the capabilities offered by the M1 tank allowed the TF 1-64 to continue its mission, while minimizing casualties. Ultimately, despite conducting a movement to contact with no intelligence into the Iraqi capital and engaging a fanatical enemy, TF 1-64 suffered only light casualties and one soldier killed in action.

The preceding account of Thunder Run One is not meant to minimize the contributions of other forces and equipment that participated in the operation. The account is meant to illustrate that armor formations, with their inherent mobility, firepower, and protection, offered a versatile and robust capability to the U.S. Army in a lethal urban environment. Thunder Run Two offers a similar perspective of armor formations in a defensive role.

In Thunder Run Two, TF 3-15 Infantry had the mission to seize and defend three objectives: MOE, LARRY, and CURLY. The objectives were located at key intersections on Highway 8 and holding them would help to secure the main line of communication for the 2 BCT as the other task forces attacked deeper into Baghdad. TF 3-15 was comprised of two companies of mechanized infantry, an armor company (B, 4-64 Armor), an engineer company, and its headquarters elements.⁵⁴ The armor company was task organized into a company team with two tank platoons and one mechanized infantry platoon, and its call sign was Team RAGE. Team

⁵³ Ibid.

⁵⁴ Dennis Steele, “Baghdad: The Crossroads,” *Army*, June 2003, 34, 38, 40.

RAGE was given the mission to seize and defend the middle objective, LARRY.

Prior to the Task Force crossing the line of departure (LD), preparatory artillery fires hit each of the three objectives. Despite these fires, the enemy engaged TF 3-15 with fire from all sides from the moment the unit crossed the LD. The enemy fired RPGs and small arms from positions in buildings along Highway 8. LTC Twitty, the TF 3-15 commander, realized early on in the battle that the enemy forces in this fight were willing to fight to the death, unlike most of the forces his unit encountered prior to this time. Additionally, the enemy “hugged” the US positions so closely throughout the fighting that close air support could not be employed.⁵⁵

Team RAGE attacked through the heavy enemy fire on Highway 8 and seized Objective LARRY. LTC Twitty fought the battle from LARRY because it was the middle objective. On LARRY, one tank platoon defended the northeast quadrant, one tank platoon defended the southeast quadrant, and the mechanized infantry platoon defended the west side of the objective.

Attacks on the objective began immediately. LTC Twitty recalls:

The main effort, at least for the first several hours, was a series of individual and group suicide attacks by vehicles racing towards US positions from the south. Filled with armed men, these vehicles would race towards the intersection with weapons firing out the windows or from the beds of pick-up trucks...The attacks were as incessant as they were futile, but they were pressed home with a fierceness and determination to defy the US fire that made the men on Objective LARRY come to believe that the Iraqis were all using some sort of drugs.⁵⁶

In the course of this battle, LTC Twitty estimated that Team RAGE destroyed fifty to eighty enemy suicide attackers in a variety of vehicles. The tank platoons primarily engaged and destroyed high-speed vehicles attacking Objective LARRY on the main roads.⁵⁷ Team RAGE’s fight on Objective LARRY demonstrates the versatility and robustness of current armor

⁵⁵ Lieutenant Colonel Stephen Twitty, interview by Mr. Durante, 18 May 2003, Summary Transcription of Interview with Cdr 3-15 INF, 2BCT 3ID, LTC Twitty, interview 2-9, transcript, Combined Arms Research Library, Fort Leavenworth, KS.

⁵⁶ Ibid.

⁵⁷ Ibid.

formations in a defensive role.

Comments by the 2 BCT commander, Colonel (COL) Perkins, and the intelligence officer for TF 3-15 about a month after the battle for Baghdad reinforce the contributions of armor and highlight some of the shortcomings of current information technology relative to the environment and the enemy that 2 BCT encountered. COL Perkins stated, “I would never go into a city without armor.”⁵⁸ He later offered his rationale for this statement based on the volume of fire and constricted areas in military operations in urban terrain, “You are not going to be able to maneuver and avoid fires; your vehicle is going to get hit. It’s not a matter of if, you are going to get hit.”⁵⁹ Additionally, ground forces cannot always rely on combat multipliers like close air support to neutralize enemy forces. The air force could not hit what they could not see so the Iraqis parked tanks in groves of palm trees. According to COL Perkins, “As we went through this, I don’t remember seeing any destroyed vehicles before we got to [them].”⁶⁰

Relative to the situational awareness on the enemy provided by technology, COL Perkins observed, “In a close MOUT fight, the digital stuff doesn’t move. The icons stay there.”⁶¹ He also stated that Joint Surveillance Target Attack Radar System (JSTARS) with Moving Target Indicator works well finding moving tanks, but “The problem is all the stuff we fought you couldn’t pick up so easy.”⁶² Captain (CPT) Almaguer, the intelligence officer for TF 3-15, succinctly supports the observations of his brigade commander:

I don’t think the systems we have right now can react quick enough to get the information you want. We were lucky it didn’t bite us in the ass because we

⁵⁸ Colonel Perkins, interview by Major Kilner, 18 May 2003, Summary of Transcription of Briefing with Officers of 2 BCT 3ID, interview 12-10B, transcript, Combined Arms Research Library, Fort Leavenworth, KS.

⁵⁹ Ibid.

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Ibid.

have tanks and Bradley's and we can just roll through things and kill everything.⁶³

These observations highlight the importance of protection and firepower in our current armor formations, particularly in the absence of perfect intelligence on the enemy. These capabilities can primarily be attributed to the M1-series tank, but the weapon system would be useless without well-trained soldiers. In transitioning to an examination of armor formations in SASO during OIF, the capabilities offered by the soldiers become the focus of the discussion.

According to the 3 ID After Action Report (AAR) from OIF, the division began the transition to SASO upon entering Baghdad. The AAR states, "Soldiers who had violently attacked enemy formations with the world's most lethal systems over the previous three weeks were now called upon to secure neighborhoods and conduct humanitarian assistance operations."⁶⁴ Following the stability and support operations conducted by 3 ID, other U.S. Army divisions to include 4 ID and 1 AD have deployed to Iraq and conducted SASO.

Alpha company, 1-66 Armor in 4 ID is one of many armor companies that have conducted stability operations in Iraq. The tasks assigned to A Company touch on many types of stability operations, but most closely those associated with peacekeeping. According to the company commander, CPT Sanchez:

We are conducting show of force, presence patrols; checkpoints and traffic control points. We seize illegal weapons and ensure destruction of those weapons. We reinforce the legitimacy of the government and of the police force in particular.⁶⁵

⁶³ Captain Almaguer, interview by Major Corey, 19 May 2003, Summary Transcription of Interview with S2, 3-15 INF, 2 BCT, 3ID, interview 10-8A, transcript, Combined Arms Research Library, Fort Leavenworth, KS.

⁶⁴ U.S. Army, *Third Infantry Division (Mechanized) After Action Report, Operation Iraqi Freedom*, July 2003), available from <http://www.globalsecurity.org/military/library/report/2003/3id-aar-jul03.pdf>; Internet accessed 24 January 2004.

⁶⁵ Captain Sanchez, interview by Major Kilner, 27 May 2003, Summary Transcription of Interview with CDR A CO 1-66 AR, CPT Sanchez, interview 14-9B, transcript, Combined Arms Research Library, Fort Leavenworth, KS.

Critical to successfully conducting these tasks is having enough soldiers for security and for sustained operations. Current tank platoons have the ability to conduct many of these tasks as an independent unit.

First Lieutenant Marcee is a platoon leader in A company. He briefly described a technique for establishing a checkpoint on a road with his tank platoon, “We set up one tank facing traffic, and another facing the direction of travel making them zigzag through the tanks, and making them zigzag through the concertina wire to get to you.”⁶⁶ In addition to manning the tanks with at least two soldiers, a typical checkpoint also requires a security team where vehicles are being stopped, a search team for vehicles and a search team for personnel. Although the number of soldiers required to properly run a checkpoint in peace operations pushes the limits of a tank platoon, particularly for a sustained period of time, they routinely conduct this task. The sixteen soldiers normally assigned to a tank platoon provide the versatility to do so.

Similar to stability operations like peacekeeping, support operations also require soldiers, more so than technology, to accomplish assigned missions. A company, 2-37 Armor in 1st Brigade, 1 AD, conducted foreign humanitarian assistance operations in Baghdad. According to the company commander, CPT Roger Maynulet, one of the tasks he was required to perform in his sector was, “Assessing the status of all elements of the sector’s infrastructure, to include electricity, water, police, schools, hospitals, and demographics.”⁶⁷ His soldiers not only conducted the assessment, but also fixed as many common problems as possible, like replacing generator parts or wire. Conducting these tasks, particularly in light of other responsibilities in sector, requires numerous personnel. In fact, the tasks assigned to A Company required more

⁶⁶ First Lieutenant Marcee, interview by Major Kilner, 27 May 2003, Summary Transcription of Interview with 1LT Marcee, Platoon Leader, A Company, 1-66 AR Battalion, 4 ID, interview 14-11B, transcript, Combined Arms Research Library, Fort Leavenworth, KS.

⁶⁷ Roger Maynulet, “Company Operations During the Establishment of Stability Operations in Baghdad,” *Armor* (January-February 2004): 28.

personnel than the sixty-four soldiers authorized by the MTOE, so the unit was augmented with a platoon of scouts. This example illustrates not only that tank companies perform foreign humanitarian assistance operations in a post major conflict scenario, but also that these operations are manpower intensive.

Stability and support operations are difficult to accomplish in a permissive environment. However, in many places in Iraq U.S. ground forces conducting stability and support operations confront an additional challenge: convoy security. More specifically, hundreds of soldiers have been injured and killed since the end of major combat operations by improvised explosive devices (IEDs) employed against U.S. convoys. IEDs can range from small pipe bombs to unexploded artillery shells rigged with some sort of detonating device. The IEDs used by insurgents and terrorists in Iraq trying to deter U.S. resolve are normally well camouflaged and difficult to detect. More powerful IEDs have killed soldiers in Bradley Fighting Vehicles and, in one instance, an IED made of several tank mines destroyed an M1 series tank and killed members of the crew.⁶⁸ The documented vulnerability to such devices reinforces the need for protection for armor forces, regardless of the type of operation being conducted.

Conclusion

The fact that operational examples have been selected from OIF does not mean to suggest that OIF represents all future conflicts. In the words of a former director of SAMS, “Operation Iraqi Freedom was not *the* war, it was *a* war.”⁶⁹ However, OIF does clearly illustrate the demands placed on armor formations in the contemporary operating environment. Current armor formations not only provided the versatility and robustness to conduct high intensity operations,

⁶⁸ The Cable News Network, “Forces: U.S. and Coalition Casualties,” *Special Report: The War In Iraq*, available from <http://www.cnn.com/SPECIALS/2003/iraq/forces/casualties>; Internet accessed 23 February 2004.

⁶⁹ James Greer, Address to SAMS Class of 2004, Fort Leavenworth, KS, 20 June 2003.

with little intelligence, against a determined enemy in an urban environment, they also provided the ability to perform stability and support operations subsequent to the end of major hostilities. The outstanding question from OIF is whether or not the fight into Baghdad and the ensuing operations represent a unique problem set, or if U.S. forces need to maintain the versatility and robustness in its formations to succeed in the same type of scenario in the future.

IV. The MCS Company

Doctrine and history forecast the challenging nature of the environment and missions the MCS company will encounter in the future. This chapter takes a closer look at the MCS company and evaluates its capabilities relative to current armor forces using the criteria of versatility and robustness.

Description

The projected Table of Organization and Equipment (TOE) for the MCS company authorizes a total of thirty-seven personnel for the unit. The company is broken down into a headquarters section and three platoons. The headquarters section includes the following personnel and equipment: the commander with two crewmen in a Mounted Combat System; the executive officer in a Command and Control Vehicle with a fires specialist, a robotics specialist, a chemical specialist, and a driver; and the first sergeant and his driver in a Future Tactical Truck System-Utility. Each platoon has three Mounted Combat Systems with nine soldiers to include a vehicle commander, gunner and crew chief on each system; the vehicle commanders include the platoon leader and the platoon sergeant. Thus, in terms of primary capability, the MCS company has thirty combat crewmen mounted on ten combat systems (see APPENDIX D for a wire diagram of the MCS company).⁷⁰

The MCS company will purportedly be equipped with some key enablers. Each platoon will have an Armed Robotics Vehicle for Reconnaissance, Surveillance, and Target Acquisition (ARV-RSTA). Additionally, each company will have three Class II, or company level, Unmanned Aerial Vehicles (UAVs). The *O&O* states that these systems will accomplish the following tasks:

⁷⁰ *Change 2 to TRADOC Pamphlet 525-3-90 O&O*, 3-19.

The UAVs and ARVs provide the company with reconnaissance capability in MOUT and other battlespace. Unmanned systems move ahead of manned platforms, providing overwatch, mine and obstacle detection.⁷¹

These enablers have the potential to enhance the capabilities of the MCS company. In fact, one of the underlying premises for the design of the units in the Objective Force is to use such equipment in conjunction with networks to provide greater situational awareness and ultimately information superiority, thereby reducing the number of soldier-manned combat systems required to generate the same amount of combat power as current formations.

The *O&O* states, “in the UA, situational awareness derived from real-time, accurate, fused information raises combat power exponentially.”⁷² Furthermore, networked, enabling sensors like the ARV-RSTA will purportedly improve lethality at all levels. According to the *O&O*, “Structurally and through the network, sensor-shooter relationships begin at the Soldier level and exist throughout the formation, providing the UA the ability to accurately direct effects internally or from supporting UE forces and joint assets.”⁷³ The analysis portion of this chapter examines the employment of these enablers and their projected effectiveness in greater detail.

The *O&O* not only describes the types of equipment and number of soldiers in the MCS company, but also provides the missions and tasks the MCS company will be expected to perform. The primary mission of the MCS company is, “To close with and destroy enemy forces, using fire and maneuver and tactical assault.” Accordingly, “This unit is optimized for high-speed mobile operations and has the required lethality to kill main battle tanks (MBT) with enhanced reactive armor and active protective systems.” Finally, the *O&O* clearly states in a list of tasks that the company will conduct full spectrum operations in all terrain and weather.⁷⁴

⁷¹ Ibid., 3-20.

⁷² Ibid., 3-1.

⁷³ Ibid.

⁷⁴ Ibid., 3-20.

Analysis

Analysis of the MCS company scrutinizes projected capabilities for conducting full spectrum operations in the future operational environment using the criteria mentioned throughout this paper: versatility and robustness. By way of review, versatility refers to the ability to conduct a variety of missions; robustness refers to the ability to continue the mission after degradation. The analysis is relative to the demonstrated capabilities and limitations of M1-series tank companies. Discussion of full spectrum operations is limited to the representative examples emphasized in Chapters II and III, and the environment focuses on urban operations. The analysis describes general concerns that affect versatility and robustness throughout the spectrum of operations. This analysis puts into perspective the leaps in technology required for MCS companies to maintain the capabilities provided by current tank companies.

In offensive and defensive operations, versatility for armor units conducting missions comes from mobility, firepower, and protection. It is reasonable to expect that the MCS company will be at least as mobile, if not more mobile, than an M1-series tank company. Mobility is examined in greater detail later in this chapter. However, based on a rudimentary examination, it does not appear that the MCS company will have as much firepower as an M1-series tank company, particularly when one considers anti-personnel systems. In the battle for Baghdad, as one would expect in an urban environment with a largely dismounted threat, machine guns were the weapons of choice. Each M1-series tank mounts three machine guns—two 7.62-millimeter machine guns and a .50 caliber machine gun—that can all be fired simultaneously by three different crewmembers if the main gun is not being fired. In considering aggregate numbers, each tank platoon has twelve machine guns, and a company of fourteen tanks has forty-two machine guns.

By comparison, the MCS will have “rapid gun fires required for actions on contact or during tactical assaults.”⁷⁵ The rapid gun capability will most likely amount to a maximum of two anti-personnel systems—be they machine guns, lasers, or some other high technology weaponry—because there are only three crewmen and one of them is the driver. In the aggregate, each platoon will have a maximum of six anti-personnel systems and each company will have twenty. The difference between the units equates to a fifty-percent reduction in the ability to engage multiple troop-type targets simultaneously at the platoon and company levels. This figure represents a large delta that will presumably be accounted for with technology to maintain similar anti-personnel capability.

With regard to primary weapon systems, the M1-series tank mounts a 120-millimeter main gun, which, with a properly trained crew, has demonstrated the ability to routinely engage and destroy enemy tanks in excess of two kilometers in combat. The fire control system and ammunition are so well designed that first round hits are the realistic expectation in gunnery training standards. This capability can certainly be improved, but how much and to what end? According to *The Objective Force in 2015* White Paper, units in the Objective Force will be “capable of destroying adversary formations at longer ranges with smaller calibers, greater precision, and more devastating effects.”⁷⁶ Furthermore, the MCS will use line-of-sight and beyond-line-of site fires to engage targets at standoff ranges.⁷⁷ Seeking to improve standoff ranges makes great sense if the MCS is optimized to fight on the open plains of Germany or in wide-open desert. However, in an article entitled “The Future of Armored Warfare,” Ralph Peters cautions, “We *will* fight in cities. Even when we are not fighting, we will operate in urban

⁷⁵ Ibid.

⁷⁶ *The Objective Force in 2015* White Paper, ii.

⁷⁷ *Change 2 to TRADOC Pamphlet 525-3-90 O&O*, 3-20.

areas and in complex terrain on a variety of missions.”⁷⁸ In light of these assertions, purported improvements for the primary weapon system seem largely irrelevant. In the end, the MCS company has four less primary weapon systems than an M1-series tank company and therefore appears less capable in terms of firepower. Here again, technology will need to bridge the gap created by four less weapons in the company.

Protection is the third element that provides armor units versatility, particularly in offensive and defensive missions. Protection can be a function of many factors to include speed, physical material like armor plating, and information superiority. In offensive operations in open terrain, like a desert, speed is a definite asset. Similar to mobility, it is reasonable to assume that the MCS will be able to match or exceed the speed of an M1-series tank. However, the effects of speed for protection may be reduced in MOUT.

The second factor in protection, physical material, remains a trademark of the M1-series tank. Destroying one of these tanks is extremely difficult, even with advanced kinetic and chemical energy weapons employed by U.S. forces. However, the protection offered by armor plating comes at a cost: weight. An M1 tank weighs about seventy tons. The MCS will be lighter than an M1 tank in order to make it more rapidly deployable in accordance with existing airlift capabilities. “Enhanced reactive armor and active protective systems” are projected to offer MCS crews a certain degree of protection at a much lower cost in weight—possibly as low as a thirty-five ton vehicle. Once again, a large leap in technology will be required to provide protective solutions that offer MCS crews a degree of protection similar to that offered by an M1-series tank. The possibility for the development of drastically new protective systems seems less likely by 2008, when the first elements of the Future Combat System are scheduled to be

⁷⁸ Ralph Peters, “The Future of Armored Warfare,” *Parameters*, Autumn 1997, available from <http://carlisle-www.army.mil/usawc/Parameters/97autumn/peters.htm>; Internet accessed 30 September 2003.

fielded.⁷⁹ As a result, protection for the MCS will rely much more heavily on the third factor of protection, information superiority.

In fundamental terms, information superiority allows friendly forces to detect and engage enemy forces before enemy forces can respond in kind. Information superiority is “derived from the ability to collect, process, and disseminate an uninterrupted flow of information while exploiting or denying an enemy’s ability to do the same.”⁸⁰ A variety of sensors collect information while a suite of hardware and software, as well as communication links, are required to process and disseminate information. Force designers anticipate that MCS companies will operate with information superiority, and the designers have included assets in the unit’s TOE to support that objective. However, there are some physical and hypothetical issues with information superiority for the MCS.

Recalling the TOE for the MCS company, the unit will have additional systems or enablers to collect information while keeping soldiers out of harms way: three ARV-RSTAs and three company-level UAVs. While these systems may provide some additional capability, the *O&O* does not specify who will operate and maintain these systems. The *O&O* does state that each MCS will be operated by a three-man crew and will be able to transport a fourth, but the additional soldier on each vehicle is not included in the TOE. Furthermore, the *O&O* does not specify that the transported soldier will be specially trained to operate what will surely be a fairly complicated suite of equipment. The absence of designated operators begs a question: If soldiers in the platoon are operating the enablers, who is fighting the primary weapon system—the MCS?

A similar line of questions readily follows. If enablers in the MCS company are properly operated, will they be able to find not only an enemy’s major combat systems, but also every

⁷⁹ Kagan, “War and Aftermath,” 11.

⁸⁰ *Change 2 to TRADOC Pamphlet 525-3-90 O&O*, A-24.

enemy combatant with an RPG? Finding every RPG may seem like too exacting of a standard, but the subsequent discussion of robustness will suggest otherwise. Finally, if the myriad of collection assets—to include systems organic to the MCS company as well as feeds from other sensors—can acquire the necessary level of fidelity on enemy combatants, will the hardware, software, and training of soldiers that support information processing and dissemination provide a common operational picture to MCS crews in a timely manner that allows crews to avoid short range engagements? When the aforementioned questions can be answered positively, then information superiority will provide the same degree protection for MCS crews that armor plating provides M1 tank crews. Until that time, the soldiers in the MCS company will not enjoy the same level of protection and therefore will be more susceptible to the effects of enemy fire.

In the absence of seemingly incredible leaps in technology, the MCS company will likely have less firepower and protection than current tank companies. These potential shortcomings may reduce an MCS company's ability to contribute to a movement to contact or an area defense in an urban environment like U.S. Army armor forces did in OIF. At a minimum, contributions will certainly come with additional risks, and most likely additional casualties. This realization should be a very real concern for future commanders. If forces possess less capability in that they may accomplish missions at increased costs, then the forces are less versatile. An MCS company also appears to be less versatile for conducting SASO.

Versatility in SASO largely stems from mobility as well as the number of soldiers available to accomplish the variety of tasks associated with the missions. In terms of mobility, the MCS may provide a distinct advantage over M1-series tanks. M1 tanks are extremely costly to operate and often times are hampered in SASO because existing infrastructure in a given country will not support the size or weight of the vehicle. Furthermore, the combination of weight and tracks can significantly damage road networks over a period of time: a decidedly unwanted outcome in a stability or support operation. Based on his SASO experience in OIF, CPT Sanchez remarked, "The tank gets you where you need to go and do up until the cease-fire.

After that there almost needs to be an in stride turn in of most of our equipment, not all of it, for a lighter type of force.”⁸¹ The MCS company should inherently offer the lighter force capability that CPT Sanchez describes.

The MCS should also offer advantages over the M1-series tank in terms of reduced maintenance requirements and fuel consumption, because the MCS will be a lighter vehicle. Each of these characteristics will provide the MCS company with more cost-effective mobility. Thus, the MCS may offer a welcome alternative for armor crew transportation in the transition from combat operations to SASO. However, a larger issue for SASO relates to the number of crewmen available to do tasks other than manning vehicles.

Peacekeeping and humanitarian assistance operations require personnel. If the capabilities required to conduct SASO could be provided with technological means, then a Bosnia-type mission in 2025 would only require a host of automated sensors to monitor personnel and equipment in former warring factions. This notion represents pure fantasy. While UAVs and ground robots may provide some observation capability, mission profiles demand human participation. Only soldiers can provide human intelligence and monitor people’s intentions. A logical follow-on to these assertions would be an in-depth troop to task analysis for SASO operations. However, for the purpose of this study it is sufficient to say that effective SASO missions are manpower intensive.

And, while MCS companies will never be required to provide all the manpower for SASO missions, history shows that in SASO every soldier counts and that many soldiers will do tasks unrelated to their primary military occupational specialty. These precedents do not bode well for the contributions of MCS companies, in which manning strength represents a significant

⁸¹ Captain Sanchez, interview by Major Kilner, 27 May 2003, Summary Transcription of Interview with CDR A CO 1-66 AR, CPT Sanchez, interview 14-9B, transcript, Combined Arms Research Library, Fort Leavenworth, KS.

reduction from current tank companies.

Counting only the crewmen on primary combat systems, to include leaders, the MCS company is authorized thirty personnel while the M1-series tank company is authorized fifty-six personnel. Thus, the tank company has almost 100% more personnel to accomplish assigned missions. Put another way, a commander would need to employ almost two MCS companies to put the same number of boots on the ground as a tank company provides. The difference in the number of soldiers equates to a less versatile force for SASO missions. Increased risk of casualties in certain types of offensive and defensive operations, as well as less soldiers to begin with, becomes even more daunting when examining robustness in an MCS company.

In large part, robustness relates to redundancy. Frederick Kagan aptly describes the advantages of redundancy in military operations:

Redundancy in war can yield flexibility and security. It ensures that when one system fails for whatever unforeseen reason, another can take its place. It provides the ability to meet unexpected challenges. In military affairs, redundancy is a virtue.⁸²

An analysis of the MCS company reveals the distinct absence of redundancy, and subsequently robustness.

The MCS company, as described in the TOE, is not as robust as an M1-series tank company. Less primary systems and soldiers mean the unit will not degrade as gracefully under contact—the MCS company will only have ten manned combat systems and thirty combat crewmen. Examining losses in terms of percentage, one catastrophic hit and the unit loses one system and three soldiers, which equates to 10% of its combat power. By comparison, when a tank company suffers the catastrophic loss of vehicle, which is less likely because of armor volume protection, 7% of the unit's combat power is lost. Additionally, if an M1-series tank is

⁸² Frederick W. Kagan, "A Dangerous Transformation," *The Wall Street Journal*, available from <http://www.opinionjournal.com/extra/?id=110004289>; Internet accessed 14 November 2003, 4.

destroyed, combat experience has proven that in most cases not every member of the four-man crew is critically injured. Even if all four crewmen are lost, they represent 7% of the company's strength. The discrepancy percentage between the two types of units increases with more losses: two MCS vehicles equals 20%, two tanks equals 14 %; three MCS vehicles equals 30%, and three tanks is 21%.

Another crucial issue relative to robustness is the loss of a crewmember in a vehicle. If an M1 crewman is lost due to injury or illness, the vehicle can effectively be fought with a three man crew, particularly with good cross training. A similar loss in an MCS means there are only two crewmen to fight the vehicle. If it is possible to fight an MCS with a two-man crew, acquiring that capability will certainly introduce another significant technological burden for vehicle designers.

A related consideration involves the ability of a crew to operate for extended periods of time. Sleep deprivation was a real challenge for armor crewmen in both DESERT STORM and OIF because of the pace and duration of operations. During long, uncontested movements, crews typically rotated between positions to allow everyone except the driver and vehicle commander to get some much-needed rest. Fewer personnel manning each vehicle in the MCS company will reduce the effectiveness of a similar rest plan and contribute to degradation in capability.

The discussion to this point may incorrectly suggest that robustness only applies to high intensity operations, such as offense and defense. On the contrary, robustness contributes to mission accomplishment across the spectrum of operations, because there are certain tasks that every unit must do in the course of an operation. Degradation of a unit's ability to conduct a mission occurs on a regular basis without a shot ever being fired. Soldiers must maintain their equipment and pull local security, regardless of the operation or mission. These tasks, at best, sustain or preserve a unit's ideal capability level based on its authorization of personnel and equipment. However, on a daily basis, if a vehicle breaks or soldier is doing something other than contributing directly to the unit's assigned mission or task, the unit's capability is reduced to

something less than its ideal level.

A final consideration for the robustness of a unit dependent on vehicles is maintenance capability. Vehicles break, particularly when used in the kinds of harsh conditions routinely encountered in military operations. Although vehicles like the MCS in the Objective Force will be fielded with some self-diagnosis capability, this does not amount to returning the equipment to a fully mission capable status. Having fewer soldiers per vehicle in the MCS company reduces the ability to conduct operator-level maintenance. Less maintenance over a long period of time can lead to more catastrophic failures in major end items. This phenomenon will further degrade a unit that lacks robustness.

Analyzing the capabilities of the MCS company through the lenses of doctrinal requirements, historical experience, and current capabilities indicates that the unit will offer some advantages over the current M1-series tank company. However, in terms of overall versatility and robustness, the MCS company represents a decrease in capability as compared with an M1-series tank company. Should this finding be cause for alarm? If so, what can be done about it?

V. CONCLUSIONS AND RECOMMENDATIONS

People in the United States, to include members of the military community, have long been enamored with technology. Against this backdrop, Department of Defense and Army transformation programs seek smaller and lighter forces to increase the strategic deployability of military forces in the future. Not surprisingly, strategic leaders and force designers expect to leverage technological improvements in smaller and lighter forces to create more capable forces. The MCS company offers one example of a development program that aspires to create a more deployable force, without sacrificing capability, based on technological improvements. Many of the technological improvements focus on generating information superiority for U.S. forces.

Accordingly, this monograph set out to answer the following question: will the Mounted Combat System company offer an increase in capability commensurate with the challenges of conducting full spectrum operations in the future operating environment? A generally qualitative analysis, informed by doctrine and history, revealed not only that the MCS company will be less capable than the current armor force equivalent, but also provided some insight on the magnitude of technological improvements that will be required to produce equivalent capability in terms of versatility and robustness. The analysis reinforced the wisdom of an observation made by the current Director of the School of Advanced Military Studies, “Smaller is not better, better is better.”⁸³ A logical corollary to this statement might read: lighter is not better, more capability is better. Given the findings of this study and the Army’s commitment to field a more deployable force, the Army must examine options for increasing the capability of the MCS company, or at a minimum, seek to reduce risks when it is employed. The DTLOMS framework provides a logical means of categorizing recommendations.

⁸³ Kevin C.M. Benson, “The Armor Battalion After Next—A modest proposal,” *Armor* (September-October 1997): 50.

In terms of doctrine, the Army should take a close look at what has been published. Doctrinal manuals and TRADOC publications provide seemingly accurate forecasts of how and where forces like the MCS company will be employed in the future. Unfortunately, these forecasts appear to have been ignored in the development of the *O&O*. Does the Army realistically expect to have a large enough advantage in information superiority that MCS companies will not be required to succeed in “knife fights” like those encountered in OIF? If so, a more honest assessment is required. If not, doctrinal manuals should not espouse that absolute information superiority is an attainable goal in all environments, and the subsequent employment of forces must be modified accordingly. Finally, operational claims and mission sets may need to be evaluated more closely. If a force is not really capable of full spectrum operations, then doctrinal publications should include necessary qualifications. As an example, the MCS company can conduct SASO missions *with proper augmentation*.

Training for the MCS company provides an obvious recommendation: ensure there is plenty of it. Training is a tried and true method for mitigating risk in military operations. This axiom will be even more important in the MCS company, which will have less soldiers, more and different systems, as well as more complicated systems.

Leadership provides a more hypothetical challenge. The Army clearly places a premium on leader development and growing its own leaders. Historically, the Army grows leaders by placing individuals in charge of smaller organizations, allowing them to learn, promoting them and putting them in charge of larger organizations. However, armor leaders who grow up in MCS-equipped units may not experience optimal development for commanding and controlling larger organizations later in their careers.

Leaders who grow up in MCS companies will be in charge of relatively small formations. A platoon leader will only have eight other soldiers in his platoon and a company commander will only have thirty-six other soldiers in his company. In comparison, an infantry platoon leader in the UA will have forty-eight soldiers beside himself and the company commander will have

one hundred and fifty-six soldiers.⁸⁴ Presumably officers who command MCS companies in the UA will, at a later point in their career, serve as primary staff officers and be eligible to command a Combined Arms battalion because it has two MCS companies and two infantry companies. The question is whether or not MCS leaders will develop the necessary skill sets to command and control battalion level organizations and higher. In order to ensure future armor leaders gain a degree of confidence in controlling larger organizations, Combined Arms battalion commanders should task organize forces so that MCS company commanders work with attached infantry platoons, rather than merely parceling out MCS platoons to support the infantry companies. MCS company commanders in charge of MCS platoons and infantry platoons will reinforce combined arms employment training and will expose the commanders to the challenges of leading larger organizations at an earlier point in their career.

In terms of the organization of an MCS company, the Army has several options. First and foremost, the Army must examine the troop-to-task ratio in the MCS company, particularly with regard to simultaneously manning MCS vehicles and employing unmanned systems. Second, if the Army realizes that technology will not make up for lost firepower and protection, a fourth vehicle should be added to each platoon. This simple fix increases not only the versatility, but also the robustness of the organization. Finally, if adding a fourth vehicle to each platoon proves to be cost prohibitive, the Army should consider two crews for every MCS vehicle. This solution would assist in the employment of unmanned systems, as well as provide additional versatility and robustness, particularly for SASO.

This monograph purposely avoided an in-depth discussion of materiel in order to preclude classification issues. However, given that the first Objective Force unit is scheduled to be fielded in 2008, the Army must do an honest assessment of protective solution capabilities.

⁸⁴ *Change 2 to TRADOC Pamphlet 525-3-90 O&O*, 3-15.

When information superiority fails in an urban environment, MCS crew survivability will largely depend on the protection offered by the vehicle. If technological development is lagging, the Army must be willing to incur some additional cost in terms of weight in order to provide a truly protected, mobile direct fire system. This does not mean to suggest that a seventy-ton vehicle is an acceptable solution. However, the Army should be willing to find a happy medium between armored protection and deployability, rather than automatically opting for deployability.

Soldiers come last in the Army's DTLOMS framework. This fact is analogous to the Army's somewhat schizophrenic positions with regard to the importance of soldiers. A frequently touted slogan states soldiers "are the centerpiece of our formations."⁸⁵ The *O&O* asserts, "The Soldier is the centerpiece of the Objective Force."⁸⁶ And yet, they are the last consideration in the DTLOMS framework. While this observation may be brushed aside by arguing for the sake of a memorable acronym, future force design suggests that the Army may not fully appreciate the importance of soldiers relative to equipment. Transformation of armor forces equates to having less soldiers in one of the Army's two primary maneuver branches—the only two that are designed to seize and hold terrain. Beyond this consideration, two additional recommendations should be taken into account.

Soldiers in the MCS company may experience excessive sleep deprivation in extended operations due to the lack of personnel. A way to overcome this would be to employ the two MCS companies in a CA battalion on a rotational basis. Otherwise, the demands of conducting operations, while pulling security and maintaining equipment, will quickly degrade the soldiers' ability to perform at an acceptable level. Secondly, the Army should realize that the entry level skills for MCS soldiers will be extremely high based on the requirement to operate and maintain

⁸⁵ U.S. Department of the Army, *The Army Vision* (Washington, D.C.: HQ Department of the Army, October 1999), 2.

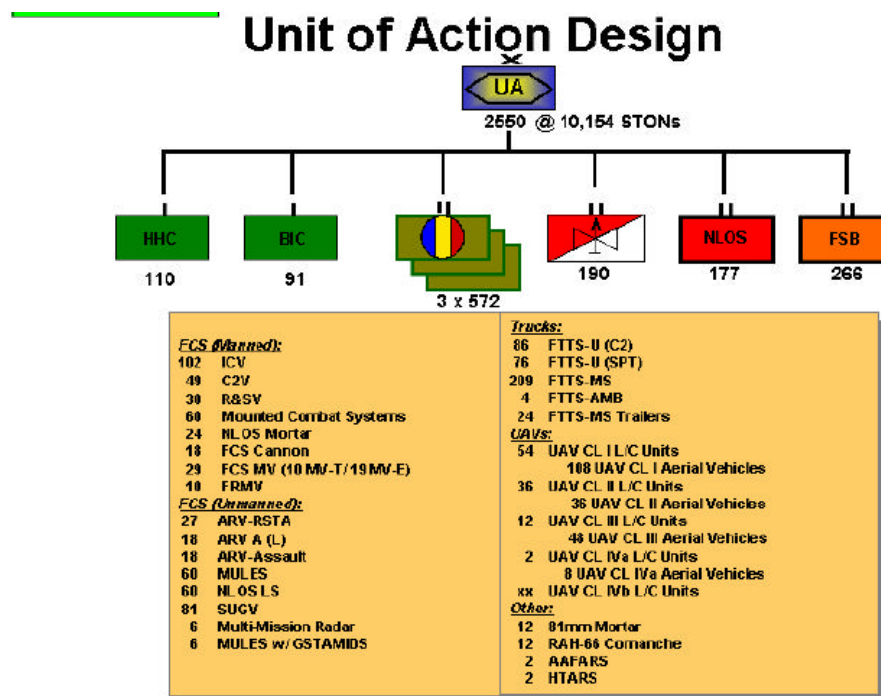
⁸⁶ *Change 2 to TRADOC Pamphlet 525-3-90 O&O*, 3-2.

at least three complicated pieces of equipment: the MCS, the ARV-RSTA, and the Class II UAV. Based on this realization, recruiting strategies may need to be adjusted to lure some of the best and brightest into these formations.

The Army embarked on its transformation to the Objective Force prior to Operation Iraqi Freedom. In light of experiences in that war, the Army may need to reconsider the design of some of its future formations, like its armor companies. As it stands, M1-series tank companies will be in the Army's inventory until around the year 2025. This means the Army has time to make adjustments to the MCS company. Taking the time to field a Future Force with the versatility and robustness to perform to a high standard in all environments seems more prudent than fielding a force that decreases the number of combat soldiers and is reliant to a fault on technological developments.

APPENDICES

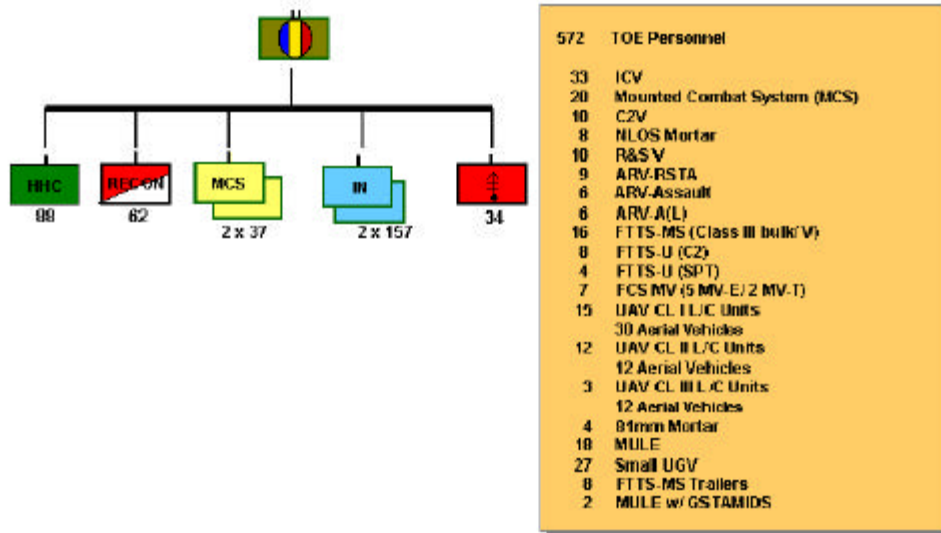
Appendix A: Unit of Action Organization



Source: U.S. Department of the Army, *Change 2 to TRADOC Pamphlet 525-3-90 O&O: The United States Army Objective force Operational and Organizational Plan, Maneuver Unit of Action [Final]* (Ft. Knox, KY: Unit of Action Maneuver Battle Lab, June 2003), 3-2.

Appendix B: Combined Arms Battalion Organization

Combined Arms Battalion



Source: U.S. Department of the Army, *Change 2 to TRADOC Pamphlet 525-3-90 O&O: The United States Army Objective force Operational and Organizational Plan, Maneuver Unit of Action [Final]* (Ft. Knox, KY: Unit of Action Maneuver Battle Lab, June 2003), 3-10.

Source: U.S. Army Armor Center, *Armor/Cavalry Reference Data*. vol. III. *FXXI Armor Division* (Fort Knox, KY: U.S. Army Armor Center, May 2002), I-19.



Appendix D: Mounted Combat System Company Organization

Mounted Combat System Company

Mounted Combat System Company X 2

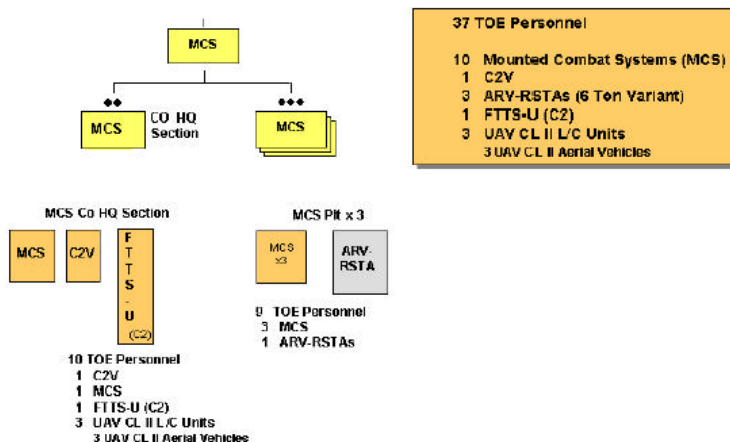
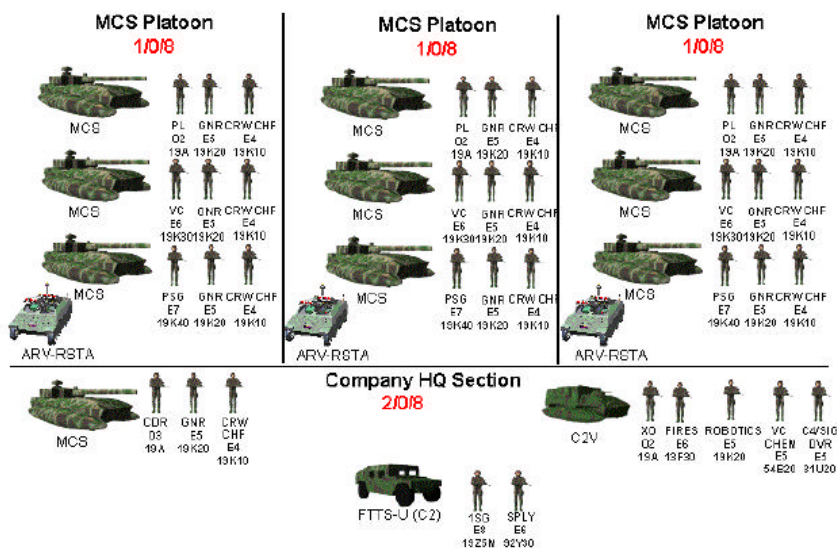


Figure 3-21 MCS Company

Increment 1 Objective

Mounted Combat System Company



Source: U.S. Department of the Army, *Change 2 to TRADOC Pamphlet 525-3-90 O&O: The United States Army Objective force Operational and Organizational Plan, Maneuver Unit of Action [Final]* (Ft. Knox, KY: Unit of Action Maneuver Battle Lab, June 2003), 3-19.

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